

No. 12146

IN THE

United States Court of Appeals

FOR THE NINTH CIRCUIT

R. W. POINTER, doing business under the fictitious name
and style of POINTER-WILLAMETTE Co.,

Appellant,

vs.

SIX WHEEL CORPORATION, a Corporation,

Appellee.

BRIEF OF SIX WHEEL CORPORATION,
APPELLEE.

FILE

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TOPICAL INDEX

	PAGE
Jurisdiction	1
Statement of the case.....	2
Questions involved on this appeal.....	9
Summary of argument.....	10
Argument	12
The prior patent art—designated by appellant on this appeal....	18
(a) The railroad bogie art.....	20
(b) The four wheel vehicle art.....	26
(c) The “Maxi” type structure having a spring for each axle and where the springs are connected by a lever.....	31
(d) Structures in which there is a lever connected at one end with a spring and at the other directly to the other axle of the tandem axle construction.....	35
The feather ride structure clearly infringes the Knox patent....	40
Knox is the sole inventor.....	47
The invention of the Knox patent involved more than mechani- cal skill	49
Conclusion	51

TABLE OF AUTHORITIES CITED

CASES	PAGE
Ball & Roller Bearing Co. v. F. C. Sanford Mfg. Co., 297 Fed. 163, 167	14
Carnes Artificial Limb Co. v. Dilworth Arm Co., 273 Fed. 838, 841	3, 16
Crown Cork & Seal Co. v. Ideal Stopper Co., et al., 123 Fed. 666, 668	3, 17
Diamond Rubber Company of New York v. Consolidated Rubber Tire Company, 220 U. S. 426, 55 L. Ed. 527, 531.....	38, 39, 50
Draper Co. v. American Loom Co., 161 Fed. 728 (C. C. A. 1)....	14
Eck v. Kutz, 132 Fed. 758, 766.....	47
Eibel Process Co. v. Minnesota & Ontario Paper Co., 261 U. S. 45, 67 L. Ed. 523, 532.....	39, 47, 48
Faries v. Brown & Co., 121 Fed. 547, 550.....	50
Finkelstein v. S. H. Kress & Co., 113 F. 2d 431, 434 (C. C. A. 2)	44
Forsyth v. Garlock, 142 Fed. 461 (C. C. A. 1).....	14
Goodyear Tire & Rubber Co. v. Ray-O-Vac Co., 321 U. S. 275, 88 L. Ed. 721.....	52
Keystone Mfg. Co. v. Adams, 151 U. S. 142.....	47
Killifer Manufacturing Co. v. Dinuba Associates, 67 F. 2d 362, 366	19
Kings County Raisin & Fruit Co. v. U. S. Consolidated Seeded Raisin Co., 182 Fed. 59, 63 (C. C. A. 9).....	45
Kirchberger et al. v. American Acetylene Burner Co., 124 Fed. 764, 776, 777.....	3, 17
Los Alamitos Sugar Co. v. Carroll, 173 Fed. 280, 284 (C. C. A. 9)	30
Morey v. Lockwood, 8 Wall. 230.....	3, 17
Refrigeration Engineering, Inc. v. York Corp., 168 F. 2d 896 (C. C. A. 9)	9, 11, 39

PAGE

Scott v. Fisher Knitting Machine Co., 145 Fed. 915 (C. C. A. 2)	14
Shotey v. Apex Broach Co., 83 Fed. Supp. 807.....	16
Stebler v. Riverside Heights Orange Growers Ass'n, 205 Fed. 735, 739	45
Thomson Spot Welder Co. v. Ford Motor Co., 265 U. S. 445, 446	12
Williams Iron Works v. Hughes Tool Co., 109 F. 2d 500, 510 (C. C. A. 10)	17
Winans v. Denmead, 15 How. 341.....	26
York Corp. v. Refrigeration Engineering, Inc., 168 F. 2d 896, 899	12, 39

STATUTES

Judicial Code, Sec. 24 (28 U. S. C. A., Sec. 41(7)).....	1
Judicial Code, Sec. 129 (28 U. S. C. A., Sec. 227).....	1

TEXTBOOK

Walker on Patents, Deller's Ed., Vol. I, Sec. 48, p. 257.....	3, 17
---	-------

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BRIEF OF SIX WHEEL CORPORATION, APPELLEE.

Appellant, R. W. Pointer, has appealed from the judgment of the District Court adjudging valid and infringed Claims 1, 2, 11, 15 and 17 of the Garner L. Knox Patent No. 1,926,727.

The structure found to infringe these claims is the Feather Ride structure manufactured by R. W. Pointer, dba Pointer-Willamette Co. The Feather Ride structure is illustrated by Exhibit 3-A and the model, Exhibit 69.

Jurisdiction.

The District Court had jurisdiction under the Patent Laws (Judicial Code 24, 28 U. S. C. A. 41 (7)). This Court has jurisdiction of this appeal (Judicial Code 129, 28 U. S. C. A. 227). The appeal was timely.

Statement of the Case.

The Knox patent relates to an invention in a six wheel attachment or running gear for a vehicle. The invention is described by Mr. Knox in the patent in suit (p. 1, col. 1, lines 1-8):

“This invention relates to six wheel attachments for motor vehicles, and is more particularly directed to a six wheel attachment for trucks, buses and the like, for distributing the load carried by the motor vehicle to the added wheels, to remove from the rear wheels of such a motor vehicle a portion of the load customarily carried thereby.”

The Knox patent in suit is of unusual commercial importance to the transportation art. The Knox patent solved a problem long existent in the art [Finding of Fact 8, R. 20] and the invention of this patent has been in use by the assignees of the Knox patent and its licensees since 1925 [Finding of Facts 13, 14, R. 22]. The patent before its grant was the subject of extensive interference contest before the Patent Office, which was vigorously fought [Exhibits 7, 8 and 9].

It was conclusively shown to the District Court that the art and patents prior to Knox's invention not only failed to teach a solution of the problem stated in the Knox patent, but that such prior art discloses structures which are impractical and inoperative [Finding of Fact 20, R. 23].

While defendant-appellant in its Statement of Points on appeal 5 [R. 53] set forth this finding as one of the points it intended to rely upon, it has, on its appeal,

abandoned this point. In its Statement of Points, appellant stated in Point 5 that the Court erred in its Finding 20, but in its brief, appellant has excluded this finding from its "Specifications of Error" (Pltf. Br. pp. 14-16) and does not now urge that the District Court erred in entering this finding. By its abandonment of this specification of error defendant-appellant admits the correctness of this finding.

The art relied upon is entirely in the form of prior patents (Pltf. Br. pp. 2, 3). This patent art, which is admittedly impractical and inoperative and which fails to disclose a solution of the problem solved by the patentee, Knox, can neither anticipate nor limit the Knox patent. It is fundamental that a successful invention is not to be defeated by earlier failures. (*Carnes Artificial Limb Co. v. Dilworth Arm Co.*, 273 Fed. 838 at 841; *Crown Cork & Seal Co. v. Ideal Stopper Co., et al.*, 123 Fed. 666 at 668; *Kirchberger et al. v. American Acetylene Burner Co.*, 124 Fed. 764 at 776, 777; *Walker on Patents*, Deller's Ed., Vol. 1, Sec. 48, p. 257; *Morey v. Lockwood*, 8 Wall. 230.)

The invention made by Knox as described in the patent in suit and defined by the claims thereof is for the first successful practical six wheel running gear for a vehicle. The problem which Knox solved was to provide a running gear where there are four rear wheels in two pairs, one pair trailing the other, and which wheels are so interconnected that the load carried by the body of the truck is proportioned to each of the four wheels in the desired

ratio. The Knox invention is defined by the Court in Finding 7 [R. 19, 20].

In the operation of such a six wheel running gear unit there are two major considerations which must be met; they are:

(1) To so interconnect the wheels of the leading and trailing pairs that each wheel under all conditions of operation supports its proportion of the load. This is particularly important when the six wheel vehicle passes over irregularities of the surface of the roadway, such as through depressions or over bumps. In this operation in accordance with the Knox invention the wheels are permitted either to move away from one another, or toward one another, depending upon which is required by the condition of the roadway.

(2) The wheels must be maintained so that they "track." Knox provided for flexibility of operation of the four wheels at the rear of the vehicle and at the same time so connected the axles together that the wheels may revolve freely and in the direction of travel of the vehicle and will therefore "track."

Mr. Knox solved these problems by the interpositioning of a universal joint between the rocker arm and the added axle of the tandem axle assembly which permits freedom of movement of the second axle so that when required it may even assume a position of irregularity or angle to the driven axle. The universal joints provided between the rocker arm and this added axle are such as to prevent the interpositioning of a strain upon this added axle which

would otherwise cause hanging up of one or more of the wheels of the six wheel running gear. The result is that under all conditions each wheel supports its proportion of the load. This problem and its solution is defined by the Court in Findings 7 and 8 [R. 19, 20].

Prior workers in the art had sought a solution of this problem but had considered it necessary either to provide (1) means for steering the added wheels, or (2) a rigid connection between the axles.

A solution of the problems of this art was thought to reside in making the wheels dirigible (steering) so that they can be turned when the vehicle turned. This attempt proved a failure [R. 79]. An illustration of this failure is found in the "Maxi" unit of Stebbins and Van Leuven [R. 82]. A further attempted solution of this problem was to rigidly couple the two axles together. These rigid structures also proved to be failures. An illustration of this type is found in the "Simplex" structures of Stebbins [R. 81].

In studying this problem, Mr. Knox soon came to the conclusion that added flexibility was required and suggested to Mr. Stebbins the invention of the Knox patent [R. 71]. Mr. Stebbins, because of the experience that he had had with the steering structures ("Maxi" units) which he had previously made, opposed Knox's solution of the problem [R. 81]. Mr. Stebbins designed a rigid structure which he then requested Utility Trailer Mfg. Co. to build. He stated that to introduce an additional joint in the structure would result in unsatisfactory operation [R. 81,

82]. Stebbins based his conclusion in this regard upon the experience which he had had with the steering type of structure [R. 71-74].

Proceeding then upon the insistence of Stebbins, a number of rigid type structures were built. After a few months of operation these structures failed [R. 76].

The rigid structures built according to Stebbins' directions had the wheels closely coupled and, being rigid, it was possible to raise one wheel only a few inches from the ground before the other wheel would likewise leave the ground [R. 76]. The result was the imposition of a great strain upon the structure and there was *no* equal load distribution [R. 76].

Mr. Van Leuven, patentee of Letters Patent No. 1,655,481 [Exhibit 56], was at that time working with Stebbins. Stebbins and Van Leuven are the joint patentees of the "Maxi" structure of Patent No. 1,562,265. Van Leuven also maintained that to put a universal attachment between the rocker arm and the added axle of the structure would produce an inoperative structure [R. 84, 85]. When the rigid type structures failed, Stebbins was unwilling to accept Knox's solution of the problem but constructed another form of attachment in which hydraulic cylinders were employed and which were connected to the end of the truck spring and to the attachment axle. When one of these structures was built, it proved so impractical that it could not even be road-tested [R. 86].

Stebbins then abandoned all effort to solve the problems in this art and an arrangement was made with Utility

Trailer Mfg. Co. under which Utility Trailer took over all of Stebbins' activities and a license arrangement made between Utility Trailer Mfg. Co. and Stebbins. Utility Trailer Mfg. Co. then revised all of the structures it had made for Stebbins, supplanting the rigid structure with the universal type structure which Knox had invented. Utility Trailer Mfg. Co. corrected these installations at its own cost because the trade was holding that company responsible for the unsatisfactory operation of the rigid attachments [R. 90].

While Utility Trailer Mfg. Co. was engaged in the manufacture and sale of the Knox structure, a patent was granted March 15, 1927, to Albert H. Fager, No. 1,620,809. At that time the Knox application for the patent in suit was on file in the United States Patent Office. An Interference No. 55,383 was declared between the then pending Knox application and the Letters Patent granted to Fager. This interference was vigorously contested by the parties.

Defendant, at the trial of this cause of action, stated that he would rely upon Fager as being the prior inventor, but when proof was offered by plaintiff of Knox's prior invention in accord with the proofs which had been made to the United States Patent Office, counsel for defendant stipulated that Garner L. Knox was the prior inventor [R. 132].

Following the conclusion of the interference, plaintiff corporation was formed. Licenses have been granted by it to all of the principal companies engaged in the manu-

facture and sale of six wheel running gears. A similar license was offered to this defendant and refused [R. 159-160]. The companies licensed are:

Cook Bros.	Plaintiff's Exhibit	13
Fruehauf Trailer Co.	" "	14
Weber Trailer & Mfg. Co.	" "	15
Pike Auto & Trailer Works	" "	16
The Trailer Company of America	" "	17
Six Wheels, Inc.	" "	18
Doane Motor Truck Co.	" "	19

Following the conclusion of the interference in the Patent Office with the Albert H. Fager Patent No. 1,620,809, suit was instituted against Fager Manufacturing Co. in the United States District Court for the Southern District of California and resulted in the granting of the injunction [Exhibit 77].

Defendant has admitted receipt of notice in writing of infringement prior to the filing of this suit [R. 62], has admitted the corporate existence of plaintiff corporation [R. 63], and that title to the Letters Patent in suit resides in plaintiff corporation.

Defendant sought during the trial to amend its answer to allege that the invention of the Knox patent in suit was not in fact the sole invention of Garner L. Knox but was the joint invention of Knox and Stebbins [R. 17]. This motion was denied. Motion for a new trial was made by defendant, based upon asserted newly discovered evidence [R. 29] dealing with the assertion that the invention of the Knox patent was a joint rather than the sole invention of Garner L. Knox. This motion was also denied [R. 46].

Questions Involved on This Appeal.

The questions raised by defendant, R. W. Pointer, by this appeal are grouped by defendant-appellant in its brief (pp. 14-16) and are to the effect that:

(1) The Court erred in finding the Garner L. Knox patent valid as to claims 1, 2, 11, 15 and 17 (Group I), and conversely, that the Court erred in not finding claims 1, 2, 11, 15 and 17 of the Knox patent to be invalid and void (Group I and Group II).

(2) The Court erred in holding that the defendant's structure as exemplified by Exhibits 3-A and 69 infringed claims 1, 2, 11, 15 and 17 of the Knox patent (Group III).

(3) The Court erred in holding that the alleged invention of the Knox patent was the sole invention of Garner L. Knox and in failing to find that the invention of the Knox patent was the joint invention of Garner L. Knox and Harry Y. Stebbins (Groups IV and V).

(4) The Court erred in not finding that the subject matter of claims 1, 2, 11, 15 and 17 involved nothing more than the exercise of mechanical skill (Group VI).

(5) The Court erred in adopting the conclusion of law that plaintiff was entitled to an injunction and accounting with reasonable attorney's fees and in issuing a permanent writ of injunction.

The appeal taken was from the determination by the District Court of the questions of novelty, invention and infringement. Each of these determinations thus made is a question of fact. These findings are supported by substantial evidence and should not be disturbed. (*Refrigeration Engineering, Inc. v. York Corp.*, 168 F. 2d 896 (C. C. A. 9).)

Summary of Argument.

The District Court found as a matter of fact the Garner L. Knox patent involved invention. The question of invention is one of fact, and this finding is in accord with the overwhelming weight of evidence. The Knox patent meets the test for invention laid down by the courts in that it discloses and claims the first solution of the problem of obtaining equal load distribution of the four rear wheels of a six wheel running gear of a vehicle. The Knox invention succeeded where all prior attempts had failed. The solution may appear simple, view retrospectively, but it is in simple solutions of complex problems where real invention is found.

The District Court properly concluded that the Knox invention was novel, useful and not anticipated by anything existing in the prior art. This decision of the District Court was greatly fortified by the District Court's finding that the devices of the prior art are either impractical or inoperative and fail to teach a solution of the problem. This finding of this District Court is not challenged [Finding of Fact 5].

The Knox invention is not negated by the prior art patents which, as the District Court found, failed to disclose the solution of the problem dealt with by Knox.

Defendant's expert, Dr. Clark, when required to pick from the 39 patents cited by defendant in his answer, selected a group of these patents which he believed to be the most pertinent and with respect to each of the patents so selected as "the best" of the prior art, stated not only that he had never seen a structure such as exemplified by the patents so selected, but that they would be impractical and that he certainly would not want to own such a structure [R. 252, 254].

The defendant-appellant's Feather Ride structure is a clear infringement of the Knox patent. The structure of the Feather Ride includes the Knox invention; the parts utilized in the Feather Ride construction are the mechanical equivalents of the structure shown in the Knox patent. This is established from the direct examination of defendant-appellant's production manager, Alden W. Mackie [R. 141, 142, 148].

Not only is the Feather Ride structurally identical with that shown in the Knox patent, but there is no difference in the mode of operation of the structures [R. 141].

The claim made by defendant-appellant that the invention of the Knox patent is not the sole invention of Garner L. Knox, but is in fact the joint invention of Knox and Stebbins, finds no support whatsoever in the record. On the contrary, it is shown that Stebbins would not permit the utilization of the Knox invention in the structures which Stebbins had had made for him by Utility Trailer Mfg. Co. [R. 81]. Stebbins abandoned the project when his structures failed [R. 86]. Knox carried on and made these structures operate successfully [R. 89, 90].

The Court did not err in its finding of fact that the invention made was the sole invention of Garner L. Knox. The District Court did not err in concluding that plaintiff-appellee was entitled to an injunction and accounting with costs and attorneys' fees and in issuing a permanent writ of injunction. The District Court having concluded as a matter of fact that the Knox patent discloses invention and that the defendant in its Feather Ride structure had infringed claims 1, 2, 11, 15 and 17 of this patent, correctly granted to plaintiff-appellee the relief prayed for and in allowing plaintiff-appellee its costs and "reasonable attorney's fees to be determined by the court" did not err. (*Refrigeration Engineering, Inc. v. York Corp.*, 168 F. 2d 896 at 901.)

Argument.

There is no error in the District Court's finding that the Knox patent discloses invention. The District Court in its Finding of Fact 7 [R. 19] determined the fact of, and defined the invention of, the Knox patent in suit and in its finding of fact, specifically defined the problem which had existed in this art prior to the Knox invention and which problem Knox solved. Appellant attacks these findings first on the ground that the invention is anticipated by the prior art, and secondly upon the ground that the invention of the Knox patent is an obvious mechanical expedient.

The question of whether an improvement requires mere mechanical skill or the exercise of faculty of invention is one of fact. (*Thomson Spot Welder Co. v. Ford Motor Co.*, 265 U. S. 445, at 446, and *York Corp. v. Refrigeration Engineering, Inc.*, 168 F. 2d 896 at 899.)

This finding of the District Court is in accordance with the overwhelming weight of evidence. The Knox patent meets all the tests laid down by the Court for determining all tests of invention as distinguished from the mere skill of the art.

The closest approach to the Knox invention in the prior art is found in the German Patent No. 209,994 and the British Patent No. 18,943 of 1907. Dr. Clark, defendant-appellant's expert, testified [R. 247-249]:

"Q. I take it there is none of them that you consider shows exactly what is shown in Fig. 1 of the Knox Patent in Suit? A. No, there is none that

I know of that corresponds in detail to that shown in the Knox Patent.

Q. In structure, function and mode of operation?

A. Yes, each one of the Patents which I have recited to some degree and to some purpose fairly well—

Q. Just tell me which ones fairly well show it?

Mr. Cook: If your Honor please, if counsel for the plaintiff would specify in his question 'structure, mode of operation,' and so forth, I think it would help the witness and help us get better evidence.

Mr. Lyon: He just said some of them were the best. Let us see him pick them out.

A. Well, I think that German Patent is one example, in fact, is a pretty good example, one of the better ones, if not the best.

Q. All right. A. British Patent 18,943, 1906, is pretty fair.

Q. Any others? A. You know I can't—I am trying to do my best. I picked out two. You want the best. How can there be more than one best?

Q. Are those the best, then? A. No, they are not the best, but they are among the best.

Q. They are among the best and there is no better?

Mr. Cook: I should like to ask if the witness is referring to the mode of operation or structure or function.

Mr. Lyon: I believe I am competent to conduct this examination.

Q. I ask you if there are any better in your opinion than the German and British Patents which you have referred to? A. I don't know, without further study."

The German patent referred to is Patent No. 209,994 [Exhibit 66]. This German patent selected by defendant's expert, Dr. Clark, as the most pertinent reference relied upon by defendant-appellant was not included in the designation of the record here on appeal. Defendant in its answer and before the District Court relied upon 39 prior United States and foreign patents, as well as pleading the defense of prior invention by Fager, Patent No. 1,620,809 [R. 9]. The defendant proceeded upon the theory that 39 patents added strength to its defense. As stated in *Ball & Roller Bearing Co. v. F. C. Sanford Mfg. Co.*, 297 Fed. 163 at 167:

"* * * It seems necessary to apply to patent litigation from time to time the maxim that one can not make omelettes of bad eggs,—no matter how many are used. One good reference is better than 50 poor ones, and the 50 do not make the one any better."

See also:

Forsyth v. Garlock, 142 Fed. 461 (C. C. A. 1);

Draper Co. v. American Loom Co., 161 Fed. 728 (C. C. A. 1);

Scott v. Fisher Knitting Machine Co., 145 Fed. 915 (C. C. A. 2).

The other patent selected by Dr. Clark, British Patent No. 18,943 (1907) [Exhibit 60], before the District Court,

was also excluded from the designation of the record to be relied upon by appellant on this appeal. Appellant has thereby abandoned the position of its own expert before the District Court with respect to these prior patents. In fact, defendant-appellant in its designation of the record here on appeal would like to be relieved from all of the testimony of its expert, Dr. Clark, having excluded from its designation substantially all of the testimony given by Dr. Clark before the District Court. Dr. Clark's testimony is now before this Court by the counter-designation of appellee.

Appellant does not now rely upon these patents chosen by its expert to be the best of the 39 patents pleaded as now being pertinent. The reason for this is obvious. Dr. Clark testified that the structures as disclosed in the prior German and British patents were inoperative and impracticable. Dr. Clark was required to admit wide structural differences from the German patent to the Knox patent in suit on cross-examination [R. 249, 251] and testified [R. 252]:

“Q. Did you ever see a structure as shown in this German patent? A. No.

Q. In fact, it would be very impracticable, wouldn't it, as an engineer? A. Well, I would not care to own a vehicle like that.”

The same is true with respect to the British Patent No. 18,943 [Exhibit 60], and the structural differences between this British patent and the Knox patent in suit as well

as the differences in mode of operation were admitted by Dr. Clark on cross-examination [R. 253, 254]:

“Q. Did you ever see a structure made like this?

A. No.

Q. Would you ever want to see a structure made like this? A. I would not.

Q. It would not be practical, would it? A. No, I doubt whether it would work out to be practical.”

With the “BEST” of the art as thus selected by defendant’s expert, Dr. Clark, as being inoperative and impracticable, it is evident that the decision of the District Court that the Knox patent is valid and does disclose invention is amply supported by the evidence. A prior patent which merely discloses an impractical device and which is shown to have had no effect on the art does not negative the novelty of the invention of a later patent which has successfully solved the problems of the art. In *Carnes Artificial Limb Co. v. Dilworth Arm Co.*, 273 Fed. 838, at 841, the court said:

“From this, as well as from other testimony respecting the patents of the prior art, and an examination of the patents themselves, the conclusion is that the prior art patents were either inoperative or impractical for the purposes intended. Respecting such a finding the Circuit Court of Appeals for the Fourth Circuit, in *Farmers’ Mfg. Co. v. Spruks Mfg. Co.*, 127 Fed. 691, 62 C. C. A. 447, said:

“‘It cannot be said that a patent for a device, which fails to accomplish the desired end, is an anticipation of one which successfully accomplishes it.’”

In the recent case of *Shotey v. Apex Broach Co.*, 83 Fed. Supp. 807, the District Court for the Eastern District of Michigan, Southern Division, had adopted the rule

as stated by the Court of Appeals for the Tenth Circuit in *Williams Iron Works v. Hughes Tool Co.*, 109 F. 2d 500, 510 (C. C. A. 10) :

“A prior patent which fails to solve the problem toward which the inventor’s efforts are directed does not anticipate a subsequent patent which successfully solves the problem and effectually accomplishes the desired result.”

This principle was applied by the Supreme Court in the case of *Morey v. Lockwood*, 75 U. S. 230 at 242, 8 Wall. 339 at 342, and is illustrated from this case of the Supreme Court in Deller’s Edition, Walker on Patents, Vol. I, Sec. 48, at page 257, wherein the Supreme Court has analyzed :

“* * * the prior Mau syringe was set up to negative the novelty of the syringe of Dr. Davidson and his brother. The latter is the wellknown soft rubber bulb apparatus. The former was exactly like it, except that the central part was a soft rubber cylinder with metallic heads, instead of a soft rubber bulb. The theoretical mode of operation of the two syringes was the same. But the Mau apparatus proved to be of no practical value, and very few specimens of it were ever sold; because the metallic heads of the cylinder strongly counteracted the user’s efforts to compress its rubber walls. For these reasons, the Supreme Court held that it did not negative the novelty of the Davidson patent.”

See also :

Crown Cork & Seal Co. v. Ideal Stopper Co., et al.,
123 Fed. 666 at 668, and

Kirchberger, et al. v. American Acetylene Burner Co., 124 Fed. 764 at 776, 777.

The Prior Patent Art—Designated by Appellant on This Appeal.

Of the art which defendant relied upon in the District Court, appellant has now selected (Plaintiff's Brief 3) the following patents:

Jeffries	174,533	Defendant's Exhibit	30
Richards	177,156	"	31
Pratt	878,156	"	32
Brillie	915,733	"	35
Warner	924,862	"	36
Smith	1,111,924	"	38
Collard	1,131,118	"	39
Pichoud	1,147,439	"	40
Pflager	1,276,687	"	44
Laisne	1,316,369	"	45
Naeser	1,414,147	"	47
Furlong	1,436,031	"	48
McCracken, <i>et al.</i>	1,527,987	"	50
Mohl	1,534,458	"	51
Stebbins, <i>et al.</i>	1,562,265	"	52
Van Leuven	1,655,481	"	56
Fageol	1,692,891	"	58
Spencer (Br.)	8,262 of 1906		59

Dr. Clark, defendant's expert, selected no one of these patents as the most pertinent of the 39 before him.

These patents were selected in total disregard of the position of defendant before the District Court, and apparently account for the desire of appellant to exclude from the record on appeal the cross-examination of its expert, Dr. Clark.

Having before the District Court 39 patents, appellant is now taking a "scatter-shot" at the Knox patent by aban-

doning in its entirety the evidence before the District Court. It has been long recognized by this Court that a party would be bound by the testimony of his expert witness in selecting from a multiplicity of prior patents those which he considered to be the most pertinent.

Appellant having thus abandoned its position before the District Court, there is now no evidence before this Court as to the manner in which these patents now selected are to be construed with relation to the Knox patent in suit.

In a further effort to correctly correlate the 39 prior patents pleaded by the appellant in his answer, plaintiff at the trial of this cause of action grouped the patents into well recognized classes. The group thus made of the prior art patents was into the following classes:

(a) The railroad bogie art.

(b) The four wheel vehicle art.

(c) The "Maxi" type structure having a spring for each axle and where the springs are connected by a lever.

(d) Structures in which there is a lever connected at one end with a spring and at the other directly to the other axle of the tandem axle construction.

This classification was presented to defendant's expert, Dr. Clark, and patents were classified in this manner [R. 226-233]. Plaintiff's expert, W. A. Doble, agreed to the classification of the art as thus made [R. 268-276]. This method of classifying a multiplicity of prior art patents was accepted by this Court in the case of *Killefer Manufacturing Co. v. Dinuba Associates*, 67 F. 2d 362 at 366. Plaintiff will consider these prior patents in accordance with the classification thus made by the experts testifying in this action:

(a) The Railroad Bogie Art:

In this art there is included the following patents in accordance with the classification made by W. A. Doble [R. 268]:

Jeffries	Defendant's Exhibit	30
British Patent 8,262	"	" 59
Fageol	"	" 58

as well as some of the other patents now excluded from this record by appellant's designation.

The railroad bogie art deals with an entirely different form of structure from that set forth in the Knox patent in suit or defined by the claims thereof. The principal characteristic of this art is that it deals with types of structures used in railway trains and the efforts to utilize that same type of running gear or wheel suspension for road vehicles. The characteristics of this art are as set forth by plaintiff's expert, W. A. Doble, with particular reference to the Jeffries patent, Exhibit 30, selected as an example.

There is first no similarity of the problem dealt with in the bogie art to that dealt with by Knox [R. 269]. In this structure there are two or three or more pairs of wheels which are supported in bearing blocks D [Jeffries patent, Exhibit 30] so that the wheels may have vertical movement only. The structures are intended to ride upon railroad tracks or relatively smooth surfaces and the wheels are confined to movement up and down. There is no possibility in the structures of one wheel or axle assuming a position at an angle to another or getting out of line or failing to "track." The very nature of the structure of a railroad bogie car truck is that the wheels are to run

along a rail, the wheels are provided with flanges to maintain the wheels running parallel. They cannot turn and there is no problem of load distribution between the wheels in passing over bumps or through depressions in a roadway of sufficient magnitude that would permit one wheel to "hang up" and thereby cause the imposition of its proportion of the load to the other wheels of the assembly. In these structures there is really no equivalent to the rocker arm 8 (Fig. 1) or 30a (Figs. 6 and 7) of the six wheel running gear of the Knox patent. Plaintiff's expert, Mr. Doble, testified [R. 269, 270]:

“Q. Is there any similarity of any disclosure of the solution of the problem of the six-wheel art to be found in this bogie art? A. No, there is not. It is a different art and it has different problems. It is not confronted with the problem which was presented to Mr. Knox in solving the six-wheel truck axle suspension mechanism.

Q. In this bogie art, is there any direct connection between a bar which could be classified as a rocker arm and one of the axles of that assembly? A. Well, no, not in the sense of the Knox Patent. In Fig. 3 there is a member 'G' which carries a helical spring which might be considered as a rocker arm, that is directly connected to the axle journal box.

Q. No universal joint in that connection, is there? A. No, there is not.

Q. The other end of that member 'G' is connected with the member 'H', which, in turn, is pivoted at its center point to the intermediate axle of that structure, is it not? A. That is correct.

Q. That member 'H' in that structure is not carried by the beam, is it? A. No, it is not.”

The British patent to Spencer, No. 8,262 [Exhibit 59, R. 560], is addressed to "Improvements in Bogies for Railway Vehicles and the like." In this structure we have the same characteristic as found in the patent to Jeffries in that the wheels which are intended to ride upon the railroad track are supported in bearing blocks *m* so that their movement is limited to a vertical plane. In this structure means are provided for distributing the load between the wheels, whether it be the four wheel form of bogie truck of Fig. 1 or the six wheel structure of Fig. 4. In each of these cases there is provided an element which is engaged with the upper surface of the axle bearing block *m* substantially midway between the length of that lever and there is provided a means for dampening the reaction to the movement of the bearing block and hence the axle in this structure. In the structure of Fig. 1, a spring *a* is connected with a spring clevis at each end and the spring clevis is in turn connected with a weighing rod *h* and this weighing rod is in turn mounted on the upper apex of the bearing block *m* and is in turn connected with a coil spring *e*. At the other end of the structure and in the intermediate set of wheels as illustrated in Fig. 4, the lever *h* is again connected with large coil springs *g* acting to maintain the link *h* yieldably in contact with, or at the apex of, the sliding bearing block *m*. There is no problem dealt with in this patent of misalignment of the wheels or is there present the problem of the danger of the wheels hanging up so that the load intended to be transmitted to each of the wheels may at some time be transmitted to another wheel or wheels of the assembly. The structure is not required to operate on surfaces containing bumps or depressions. These patents in the bogie art in no case

illustrate a rocker arm which is connected with an axle through the medium of a universal joint.

The Fageol Patent No. 1,692,891 [Exhibit 58], is for a structure where an effort was made to utilize the railroad bogie type of structure in a road vehicle in which the two axles are directly connected with the ends of a lever 9 and this lever in turn is supported at its center on a pivot or cross-axle 3. Also supported on this cross-axle 3 is a bracket 23 which is secured to the central portion of a leaf spring 24. This is a rigid type structure in which the two axles must directly follow each other and they are at all times maintained in definite spaced relationship determined by the length of the lever 9 interpositioned between the two axles. This Fageol patent indicates one of the many attempts to utilize the railroad bogie art suspension in a road vehicle. This patent did not result in a solution of the problem facing Knox. There is no evidence in the record that the structure was ever employed. It does not meet the claims of the Knox patent in any way and does not disclose a structure employing a rocker arm which is pivotally secured to a bracket secured to the frame of the vehicle and which rocker arm is in turn secured at one end to one axle by a universal joint and at the other end is secured to a beam or spring. There is no beam or spring like the spring 3 of the Knox patent which is secured intermediate its end to an axle like the axle 2. The beam or spring 3 is in turn connected in the Knox patent with the end of the rocker arm 8 at one end and at its opposite end is secured to the frame of the vehicle. This Fageol patent does not show an intermediate linkage or beam or spring member between its walking beam 9 and either of the axles of the assembly as required

by the claims of the Knox patent in suit. The patent was solicited by the Fageol Company, which at one time manufactured railway cars as well as automobiles, in an effort to translate from the railway art to the automobile art the bogie type of construction and which did not prove successful [R. 270].

There is an entirely different organization of parts attempted to operate through a different mode of operation, the mode of operation being the same as that given to the railroad bogie type of suspension.

Defendant's expert, Dr. Clark, did not consider this patent close enough to the disclosure of the Knox patent in suit to even mention it during his cross-examination where he was interrogated with reference to what he considered to be the closest to the patent in suit.

The patent to Pratt, No. 878,156 [Exhibit 32], could be properly classified in this bogie art in that like the Fageol patent it shows a walking beam 9 which is pivotally mounted upon a cross-axle 10 and at this point it is secured to the center portion of a leaf spring 8. The two axles are secured to the opposed ends of the walking beam 9 so that they must follow the movement of the beam 9 directly. The Pratt patent in addition to this clear differentiation from the Knox patent in suit, shows that the wheels 20 or intermediate wheels between the driven wheels and the forward wheels of the vehicle are made dirigible, *i. e.*, steering. Further in order to hold this intermediate axle in definite position with relation to the frame and with reference to the forward axle, Pratt connects reach rods 26 between the forward axle 3 and the intermediate axle 17. With this rigid type of structure thus provided

he further provides for raising the intermediate wheels 20 completely off the ground, utilizing a rope and winch assembly for this purpose. Like the Fageol patent [Exhibit 58], this patent relates to a structure of an entirely different type, operating through a different mode of operation. The Pratt patent does not disclose the combination of the Knox patent in suit wherein a rocker arm is connected at one end with a beam or a spring and at its opposite end is connected through the medium of a universal joint with an added axle. There is no evidence in the record that this patent had any effect on the art or that any structure like it was ever built or used.

A further illustration of the bogie art is the patent to Pflager, No. 1,276,687 [Exhibit 44], which patent is for "Car Truck" and in which the bearing housings for the axles are constrained so as to have only vertical movement, a factor common to all the patents in this art and in which the axle housings are secured to the center of elliptical springs. These elliptical springs are in turn connected with walking beams 21. As there can be no freedom of movement of the wheels of this truck out of the strictly vertical plane in which they are maintained, it is apparent that this structure could not operate over a surface having the bumps and depressions over which a road vehicle is required to operate. The problem, therefore, confronting Knox was not that dealt with by Pflager. There is no similarity of structure, function, mode of operation or problem.

The clear distinction in mode of operation of the structure of the Knox patent is what characterized the Knox invention. The flexibility of Knox due to the universal joints between the ends of the rocker arm and the added

axles permits the wheels carried by this axle to “find” their required position of operation; in so doing the wheels maintain equal load distribution.

In *Winans v. Denmead*, 15 How. 341, the Supreme Court held:

“Its substance is a new mode of operation, by means of which a new result is obtained. It is this new mode of operation which gives it the character of an invention, and entitles the inventor to a patent; and this new mode of operation is, in view of the patent law, the thing entitled to protection.”

(b) The Four Wheel Vehicle Art:

In this art we are dealing with the conventional type of vehicle having two front wheels supported by an axle and two rear wheels supported by an axle common to the ordinary pleasure motor vehicle of present day construction. In the early days of passenger automobile construction, the two axles were commonly supported to the frame of the motor vehicle by individual elliptical springs of the same character as now commonly employed in many motor vehicles. The development of steel had not proceeded to the point of its present day perfection for such use so that it was not uncommon, because of the very bad roads over which pleasure automobiles traveled in early days, to break such a spring. This weakness of the pleasure vehicle received a great deal of attention and many forms of spring suspension were suggested in order to overcome this steel weakness [R. 272].

This problem was ultimately solved, not by the use of any of these different spring suspensions as suggested by these patents in this art, but by the actual improvements

in the quality of the steel used. These problems, however, do not deal with the problem of the Knox patent. They are not concerned with the distribution of the load of a heavily laden vehicle over six wheels in order to reduce the load concentration upon the highway. They are not concerned with the equal distribution of this load so that equal distribution is maintained at all times in order that the load may be properly transported over the highway. The problem dealt with by these patentees is entirely foreign to that which concerned the workers in the art of the Knox patent. In the classification of the patents now set forth in appellant's brief are properly classified patents to

Richards	177,156	Defendant's	Exhibit	31
Warner	924,862	"	"	36
Smith	1,111,924	"	"	38
Collard	1,131,118	"	"	39
Pichoud	1,147,439	"	"	40
Laisne	1,316,369	"	"	45
Naiser	1,414,147	"	"	47
McCracken, <i>et al.</i>	1,527,987	"	"	50

In this art the same may be divided into two subdivisions, one being where the two axles are separately and independently secured to the frame and which would then include the patents to

Richards	Defendant's	Exhibit	31
Smith	"	"	38
Collard	"	"	39
Laisne	"	"	45
McCracken, <i>et al.</i>	"	"	50

In the second subdivision are included the patents to

Warner	Defendant's Exhibit	36
Pichoud	"	40
Naeser	"	47

In the distinction between these two subdivisions of the four wheel vehicle art it is found that the first subdivision shows no attempt whatsoever to distribute the load to four wheels as through the use of a system in any way similar to that of the Knox patent in suit, but each axle is independently suspended from the frame through some form of spring arrangement intended as a substitute for the multiple leaf elliptical spring then commonly used on such vehicles.

In the second subdivision of this four wheel vehicle art, a suggestion was made to connect the front and rear axles together through some form of connecting mechanism so that the force encountered for example by the front wheels of a vehicle in passing over a bump or depression found a corresponding action or reaction in the rear wheels. This subdivision is correctly related to "the Toonerville trolley" because the result is that the vehicle would "hop" down the road much in the manner of a rabbit because the imposition of the force on one set of wheels of a four wheel vehicle would be opposed through the lever arrangement by the rear wheels and the result is inevitably a rocking motion or hopping of the vehicle [R. 273]. Such structures are entirely impracticable.

It was in recognition of this fact that Dr. Clark, defendant's expert, excluded all of the patents of four wheel vehicles from the selection which he made of patents which are closest to the disclosure of the Knox patent in

suit. Dr. Clark excluded patents of this character, stating [R. 245]:

“That is out on the ground that there are no linkages between the axles.”

In these four wheel structures like that shown in the British patent where the front axle is connected with the rear axle, for example, as shown in the patents to Warner [Exhibit 36], Pichoud [Exhibit 40] and Naeser [Exhibit 47], Dr. Clark recognized the impracticability in stating [R. 259]:

“Q. Do you believe that such a structure would be practical, a practical structure for operation on the highway, where you connect the front and rear wheels together so that the force transmitted to the front wheels or, rear wheels, would be at the same time transmitted to the other pair of wheels? A. Well, on a four-wheel vehicle, no.”

In the patents of the first subdivision of this class like, for example, the Richards Patent No. 177,156, each axle is independently connected to the frame by means of a pair of levers which are connected at their ends to the axle and in turn are connected with a compression spring carried in the frame of the vehicle. This patent utilizes the spring *f* in the place of a similarly mounted elliptical spring. It discloses not a motor vehicle, but a carriage, and the problem dealt with by Richards was in an effort to reduce the height of the vehicle body from the roadway. There is no problem of load distribution dealt with or mentioned and certainly Richards was not concerned with the problem of distributing the load correctly between four wheels of a rear truck or vehicle assembly so that this load distribution might be maintained at all times

irrespective of the condition of the roadway over which the vehicle was traveling. Nothing different is found in the Warner Patent 924,862. This patent is for a four wheel vehicle; there is no four wheel tandem axle arrangement and no flexible structure is provided. There is no universal joint between a rocker arm and an added axle.

“A device which does not operate on the same principle cannot be an anticipation.” (*Los Alamitos Sugar Co. v. Carroll*, 173 Fed. 280, 284 (C. C. A. 9).)

The other patents of the first subdivision of this art, namely, the patents to

Smith	Exhibit 38
Collard	“ 39
Laisne	“ 45
McCracken, <i>et al.</i>	“ 50

are entirely comparable with the patent to Richards as far as their pertinency to the patent in suit is concerned. There is no load distribution attempted by any of these patents and they all seek merely the substitution of some form of elliptical spring or spring arrangement to overcome the common failure in this art at that time of the breaking of elliptical springs. For example, the patent to Smith attempts to utilize the two telescopic parts 19 and 20 to provide a casing in which such a coil spring might be mounted and to position one such coil spring at each effective end of the lever 8 on the opposite sides of the pivot 10 by which such lever is pivoted to the vehicle frame.

The patent to Collard, in an effort to reduce the number of such springs, discloses the cross-elliptical spring

system which was commonly utilized in the T-model Ford, except that in this case Collard mounts his elliptical springs in a plane at 90° from the plane in which such springs are commonly mounted. The springs are connected through a linkage arrangement with the frame and in this type of construction the rods *f* become torque arms, the function of which is to hold the axles in definite position with relation to the frame.

In the Laisne patent there is again disclosed an effort to substitute for the elliptical spring a coil spring. No load distribution problem was dealt with in this patent and the two axles of the four wheel vehicle are independently suspended from the frame. Laisne was not in any way concerned with Knox's problem.

(c) The "Maxi" Type Structure Having a Spring for Each Axle and Where the Springs Are Connected by a Lever:

In this third subdivision of the prior art patents relied upon by appellant there is the common feature that for each wheel there is provided an elliptical spring. The elliptical spring is connected at approximately its central portion with an axle, one end of such spring being connected with the frame and the other end of the spring being connected with a lever, which lever is pivoted to the frame. This lever is connected at each of its ends with the free end of an elliptical spring. In this subdivision of the art of the patents now referred to by appellant in his brief are included the patents to

Brillie	915,733,	Exhibit	35
Furlong	1,436,031,	"	48
Stebbins, <i>et al.</i>	1,562,265,	"	52

These patents recognize that because of the required distance between the two axles of a six wheel vehicle oc-

casioned by the use of a separate elliptical spring for each axle and the use of a connecting lever between the adjacent free ends of such springs that it is necessary to steer or make dirigible the wheels of the added axle.

The patent to Brillie is in fact directed to a particular arrangement of such steering mechanism (Brillie patent, Fig. 4) in order to make possible the operation of this structure. This factor is recognized in the Brillie patent [Exhibit 35], page 1, lines 9-13 thereof, where Brillie states:

“The present invention has for its object an arrangement allowing of the realization of a six-wheeled motor vehicle, comprising two steering wheels at the rear as well as two in front.”

There was an effort to use this type of structure which is likewise shown in the Stebbins, *et al.* Patent No. 1,562,265 [Exhibit 52], because of its difficulties in operation of maintaining “tracking” as well as in equality in load distribution which in the end resulted in Stebbins abandoning all efforts to solve the problem of this art. Because of the necessary very long connections required to make such added rear wheels dirigible where the vehicle was loaded as such vehicles are, it was impossible to maintain the wheels tracking because these connections would freely bend when the wheels encountered an obstruction. The result was that the wheels would soon assume a position very similar to that shown for the rear wheels in Figure 4 of the Brillie patent where the vehicle was intended to progress in a straight manner down the

roadway. Such an operation was entirely unsatisfactory due to grinding away of the tires of the vehicle and the strains imposed upon the vehicle by the attempt of the rear wheels to turn the rear section of the vehicle while the front wheels were endeavoring to progress the vehicle in a straight manner.

With respect to the operation of this type of vehicle, Mr. Knox testified [R. 78] that he was shown structures of the character of the Stebbins patent by Stebbins in 1924 in Los Angeles and these structures correspond substantially with that illustrated in the Stebbins patent [Exhibit 52], and that he observed these structures in operation, stating [R. 79]:

“A. Yes, during the remainder of the year 1924, I saw a number of those in operation in the city and heard of the difficulties they were having. In several instances I saw trucks operating with the attachment wheel, going down the road with the wheels out of line, all four wheels of the truck.

Q. In what way were they out of line, Mr. Knox? Will you point out from the drawing that you have what wheels that you say were out of line.

A. The wheels designated by the letter ‘E’—and the one that I examined had a steering link 22 running from the steering mechanism of the truck’s front axle to the steering arm of the attachment wheel. That steering arm is designated 21, the steering link 22. It buckled, had a decided bow in it, with the result that the wheels ‘E’ were turned to the left when the truck wheels were headed straight ahead. I would say the angle, as I recall, was about ten degrees or more; decidedly out of line.”

The Furlong Patent No. 1,436,031 [Exhibit 48], is in all respects similar to the disclosure of the Stebbins patent and the Brillie patent in that there is a spring provided for each wheel and these springs are connected through links at their free ends, spacing the wheels of the vehicle a relatively great distance apart and necessitating the use of steering mechanism for more than the front set of wheels. In fact, Furlong has endeavored to provide an eight-wheel vehicle and to simultaneously steer six of eight wheels. Such a structure has all of the difficulties of that encountered with the Stebbins structure of Patent No. 1,562,265 amplified by the greater spacing of the dirigible wheels. No such structure was ever operated and if operated, the result would be the same as that encountered with the Stebbins structure.

This "Maxi" type of vehicle does not correspond to the claims of the Knox patent found to be infringed. There is no rocker arm which is connected with one of the axles through the imposition of a universal joint and which rocker arm is at its opposed end connected with a spring or beam carrying the other axle of the tandem axle arrangement.

The attempt to solve the load distribution problem through the use of the "Maxi" type unit was a failure and was abandoned [R. 81]. The designation of this class as the "Maxi" type is because of the name applied to this unit by Stebbins and Van Leuven when they endeavored to produce the structure of the Stebbins patent [R. 80].

(d) Structures in Which There Is a Lever Connected at One End With a Spring and at the Other Directly to the Other Axle of the Tandem Axle Construction:

In this classification there is included the patent in suit to Knox,

Knox	1,926,727, Exhibit	1
also Mohl	1,534,458, “	51
Van Leuven	1,655,481, “	56

The patent to Mohl [Exhibit 51], is for an “Under-frame for Vehicles of any Kind.” This patent shows a vehicle of driven wheels *j* which are driven by the driven axle *m*. The driven axle *m* is suspended from the frame by springs 2. The ends of these springs *a* are connected to sideframe members *d* and these frame members or levers *d* are pivotally secured to the frame *g* at pivots *n*. These levers or frame members *d* are connected together by means of cross diagonal braces or stays *p*. Mohl states with reference to this structure (patent, lines 72-75):

“These crossing diagonal stays serve to take up any forces acting in the transverse direction of the frame, whereby any torsional effects on the pins *n* will be avoided.”

The structure thus produced is the most rigid that could be provided, particularly where the crossbraced frame produced is completed by the axle *f* carrying the wheels *k*. There is no universal joint provided between the frame and the axle *f*. In fact, it would make no difference in the operation of the Mohl structure if a universal

joint was introduced between the ends of the lever d and the axle f due to the rigid frame provided where the cross stays p are utilized [R. 278]. No equal load distribution could be obtained through the utilization of the Mohl structure even if a universal joint was interposed at the point suggested. The result would be that if one wheel encountered a bump, the rigid frame would cause the opposite wheel to be raised off from the ground [R. 279]. The axles f and m would not get out of parallel because of the rigid frame structure and there could be no independent equalization of the load on the opposite sides of the vehicle shown in the Mohl patent [R. 280]. It is the very purpose of the Mohl patent to prevent the action necessary to effect such independent equalization of the load on the opposite sides of the frame [R. 280].

A structure like the Mohl patent was apparently never built [R. 256]. With such a rigid structure Mohl provides for the steering of four of the six wheels in an effort to overcome the problems of this art (Mohl patent, Fig. 2).

The Van Leuven Patent No. 1,655,481 shows again a rigid type structure. Van Leuven, like Mohl, perceived the necessity of steering the added non-driven wheels. The Van Leuven patent recognized the probability of such steering mechanism becoming distorted through wear and seeks, because of a particular arrangement of the steering mechanism, to overcome this difficulty. Thus Van Leuven states (Patent, p. 1, lines 44-50):

“Another object is to provide a steering gear for the front and auxiliary pairs of wheels that will permit of perfect alignment of one pair with the other pair, even though some of the parts of the steering gear should be bent or the joints become excessively loose through wear.”

It will be recalled that Van Leuven, a joint patentee with Stebbins of Patent No. 1,562,265, had been manufacturing the "Maxi" type structure shown in the Stebbins and Van Leuven patent [R. 80]. This structure failed in operation in that it was impossible to maintain the wheels in alignment [R. 81]. Van Leuven, like Stebbins, then sought to construct a rigid assembly eliminating as far as possible all moving joints to hold the wheels in alignment. The strain imposed upon the added wheels was such that Van Leuven in his attempted solution of the problem encountered with the structure of the Stebbins & Van Leuven Patent No. 1,562,265, closely coupled his wheels and provided a very rigid steering mechanism so that he could turn the wheels to overcome some of the torsion imposed thereon. Van Leuven endeavored to produce a steering mechanism which might be bent or distorted and through the medium of which he might still maintain a working alignment of the added wheels. This structure likewise failed to provide a solution of the problem and the assignee of the Van Leuven patent, Six Wheels, Inc., abandoned this structure [R. 88, 89].

When Knox disclosed to Van Leuven his flexible structure wherein a universal joint was interposed between the rocker arms and the added axle, Van Leuven took the same position as Stebbins, for the same reason [R. 84, 85]:

"Q. In any of the conversations that you had with Mr. Van Leuven about that time, did he have objections to the use of the universal between the rocker arm and the attachment axle? A. Yes. Van Leuven maintained that the universal would not operate, that it was an undesirable feature."

The solution which Knox made to the problem which faced this art was in direct opposition to the workers in the art. Knox made his structure flexible. The workers

in the art, because of the problems that they had encountered, sought to produce rigid nonflexible structures. Except for the perseverance of Knox when those skilled in the art condemned his suggestions, the successful solution of this problem would not have been had.

The effort by appellant to make these many prior patents anticipatory of the novelty of the Knox patent clearly fails. The plan of citing 39 patents as negating novelty in the Knox patent, and then when the "best" of these patents fails, to rely upon another set, is clearly unavailing.

The true picture of the record upon which the District Court rendered its opinion is here lacking. Appellant's effort to make it appear that Knox's solution of the problem involved merely mechanical skill obviously has failed. The Supreme Court in *Diamond Rubber Company of New York v. Consolidated Rubber Tire Company*, 220 U. S. 426, 55 L. Ed. 527 at 531, answers the appellant's contention here:

"* * * Many things, and the patent law abounds in illustrations, seem obvious after they have been done, and 'in the light of the accomplished result,' it is often a matter of wonder how they so long 'eluded the search of the discoverer and set at defiance the speculations of inventive genius.' *Perl v. Ocean Mills*, 2 Bann. & Ard. 469, Fed. Cas. No. 10,876, 11 Off. Gaz. 2. Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by a merely skillful attention. But the law has other tests of the invention than

subtle conjectures of what might have been seen and yet was not. It regards a change as evidence of novelty, the acceptance and utility of change as a further evidence, even as demonstration. * * *.”

As conclusively shown by the record here, the art was struggling with the problem of maintaining the wheels of such a vehicle “tracking” and in seeking a solution of this problem it had resorted to the construction of rigid assemblies seeking to overcome the shortcoming of such rigid assemblies by utilizing steering mechanisms for the added wheels.

Directly contrary to this trend of the art, Knox produced a flexible structure in which the added axle has freedom of movement and this freedom of movement is provided by the utilization of a universal joint between the added axle and the rocker arm. The flexible structure thus produced succeeded—succeeded to the point where practically all manufacturers of this type of structure have accepted licenses under the Knox patent and have for many years paid royalty thereunder. The rigid type structures have completely disappeared. No clearer proof of invention could be provided.

The Knox invention is of a new combination operating upon a different principle, *i. e.*, of flexibility, and his combination has a new and different mode of operation. Knox succeeded where the others failed. The District Court’s finding as a matter of fact that the Knox patent covers the invention is supported by the preponderance of evidence within the ruling of the Supreme Court in *Diamond Rubber Tire* case, 220 U. S. 426, and the *Eibel Process Co. v. Minnesota & Ontario Paper Bag* case, 261 U. S. 45, and within this Court’s decision in *York Corp. v. Refrigeration Engineering, Inc.*, 168 F. 2d 896.

The Feather Ride Structure Clearly Infringes the Knox Patent.

The District Court found as Finding of Fact 9 [R. 20]:

“The structure manufactured and sold by defendant as exemplified by Plaintiff’s Exhibit 3-A and as further exemplified by the model of the defendant’s structure, Defendant’s Exhibit 69, embodies each and every element of the invention of the Letters Patent to Garner L. Knox, No. 1,926,727, and was designated by defendant as his ‘Feather Ride’ structure which, in operation, does not differ at all from the operation of the six wheel attachment disclosed in the Knox Patent No. 1,926,727 in suit and as said structure is defined in claims 1, 2, 11, 15 and 17 of said Letters Patent.”

The District Court further found as Finding of Fact 10 [R. 21]:

“In defendant’s ‘Feather Ride’ structure as exemplified by Plaintiff’s Exhibit 3-A and Defendant’s Exhibit 69, defendant uses as a universal joint rubber journaled in a journal box surrounding the added axle of the structure providing at the ends of the rocker arms; such structure of universal joints are, and were known to be prior to their adoption by defendant, the equivalent of the ball and socket universal joint illustrated in the Knox Patent No. 1,926,727 illustrated in said patent as being provided between the added axle and the ends of the rocker arms.”

The District Court further found as Finding of Fact 11 [R. 21]:

“Defendant in his Feather Ride structure employs coil springs positioned between a frame bracket and the beam supporting one of the axles of its structure, which coil springs positioned at each side of the frame

provide the only spring suspension means for the four wheels from the frame of the vehicle, and that the coil springs and beams thus provided are the full equivalent, both structurally and from a manner of their operation and as they co-operate in the combination thus formed, of the laminated leaf springs as set forth in the Knox Patent No. 1,926,727 and designated in the drawings of said patent by the numeral 3.”

The District Court further found as Finding of Fact 12 [R. 21-22] that the Feather Ride structure includes each and all of the elements of the Knox patent in suit and that these elements co-operate in the same way to produce the same results and have the same mode of operation as the elements disclosed in the Knox patent in suit.

In these findings the District Court is supported by overwhelming evidence including the unqualified admissions of defendant-appellant's plant manager, Alden W. Mackie. Mr. Mackie testified with reference to the operation of the Feather Ride structure as compared with the operation of the structure of the Knox patent, stating [R. 141]:

“Q. Will you describe the operation of the Knox structure in about the same manner as you did the operation of the Pointer tandem axle suspension?

A. This appears to operate in very much the same manner as the Pointer tandem axle suspension.”

Further Mr. Mackie testified [R. 142]:

“Q. In operation, how does the Feather Ride structure differ from the Knox structure, if it does?

A. It does not differ at all. In operation they are alike.”

In the Feather Ride structure as shown by Exhibit 3-A [R. 310-A] a trunnion rubber cushion is interposed between the end of the rocker arm entitled in this drawing "rear beam" and the axle. This rubber trunnion performs the same function in the same way to produce the same results as does the ball and socket universal joint illustrated in Figures 6, 7 and 8 of the Knox patent in suit. It provides the flexibility of connection between the rocker arm and the added axle which permits the two axles to move out of parallel and permits the structures to operate so that equal load distribution is had over the four wheels at all times. The equivalency of such rubber mounting is testified to by Mr. Mackie [R. 148]:

"Q. Do you know of vehicle suspensions where rubber is used between the rocker arm and axle of the suspension, serving as a universal joint? A. We use rubber as a universal joint in our own Feather Ride tandem axle suspension, * * *"

In the Feather Ride construction as shown by Exhibit 3-A and as also shown by Exhibit 11 [R. 333] there is the same combination of parts operating together to produce the same result through the same cooperation of these elements. The appellant's Feather Ride structure is analytically set forth in Plaintiff's Exhibit 11 [R. 333]. It is here shown that the structure includes a bracket 6 in which there is utilized a pair of coil springs. These coil springs provide the sole spring suspension for the two axles as is accomplished by the laminated spring 3 (Fig. 1) of the Knox patent. There is thus the spring or set of springs on each side of the vehicle which provides the spring suspension means for the two axles 2 and 10a. The rocker arm 30a is connected to the rear beam or spring member 3. The axle 2 is secured to the member 3

intermediate the ends of that member 3. The left hand end of the member 3 is connected with a hanger through the medium of a pivot 3. The forward or free end of the member 3 is connected through the medium of connecting means 31 to the rocker arm 30a. The rocker arm 30a is then connected through the medium of the rubber universal joint with the added axle 10a.

With respect to this assembly, Mr. Mackie testified on direct examination [R. 149]:

“A. The springs are in a housing intermediate the ends of the rear walking beam.

Q. Is the rear walking beam and spring cluster mounted on the rear walking beam equivalent of a leaf spring? A. Yes, it is the equivalent of a leaf spring.”

The further complete equivalency of this assembly to that shown by the Knox patent is shown by Mr. Mackie's testimony with reference to the advertisement [Exhibit 75, R. 435], where Mr. Mackie describes the manner of assembly of the Feather Ride structure [R. 148, 149]:

“Mr. Cook: I would like to have the witness provided with Plaintiff's Exhibit No. 75, being a copy of Page 27 of the issue of April, 1946, of 'Power Wagon.'

Q. Will you describe the structure shown in that advertisement? A. The upper picture is the rear beam of the Feather Ride tandem axle suspension. It has a spring housing attached to the frame and bracket attached to the frame, and a connecting means from the bracket to the forward end of the walking beam.

Q. Single axle? A. That is a single-axle trailer suspension.

Q. When that single-axle suspension is converted to a dual-axle suspension, how is that accomplished?

A. When they convert a single-axle suspension to a dual-axle suspension, it is necessary to add the front walking beam with its axle and tires and the front walking beam bracket is attached to the frame in the vehicle to the front end of the front walking beam."

Infringement is thus apparent and became a simple determination of fact from the admissions of defendant-appellant's production manager. *Finkelstein v. S. H. Kress & Co.*, 113 F. 2d 431, at 434 (Circuit Judge Augustus N. Hand, C. C. A. 2):

"The question here, as in all other cases where infringement depends on the use of equivalents, is whether the substitute functions in the same way as the original. If it be thought that it was not indubitably clear that defendant's device came within the range of equivalents to which the claims were entitled there was certainly no error in the trial for the judge left the question of infringement to the jury under instructions to find infringement if it determined that the defendant's device did 'the same work in substantially the same way and accomplished substantially the same result.'"

The heart of the Knox discovery and invention was in the development of a flexible unit made flexible by the interpositioning of universal joints between the rocker arms and the added axle of the tandem axle suspension unit. This was an entirely new and radical departure from the workers in this art. A mere change in form of the adoption of this invention where known equivalents are utilized, the same combination operating through the

same mode of operation to produce the same results, will not avoid infringement.

In *Kings County Raisin & Fruit Co. v. U. S. Consolidated Seeded Raisin Co.*, 182 Fed. 59, at 63 (C. C. A. 9), Circuit Judge Gilbert said:

“It does not necessarily follow, from the fact that the claim describes a specific form of construction, that the inventor shall be limited to that form. All depends on his expressed intention, and the scope of the actual invention which he has made. If his improvement is but a narrow one, or if he has used language such as clearly to show his intention to limit his invention to a particular form described, then he is held to the language of his claim, and limited to that specific form. But if his is a pioneer invention, or one of such merit as to be entitled to a liberal construction, the claim will not be thus limited, even if couched in specific language, unless the inventor has also shown his positive intention to relinquish to the public all other forms in which his invention might be embodied.”

Here defendant's production manager has unequivocally stated the Feather Ride construction embodies the mode of operation of the Knox structure in its entirety and further states that the structure used to so adopt the Knox mode of operation is in all respects the known mechanical equivalent of that shown in the Knox patent. Defendant has clearly taken that which “is the substance of the invention.” This requires affirmance of the District Court's finding of fact that the Feather Ride structure is an infringement of the claims of the Knox patent (*Stebler v. Riverside Heights Orange Growers Ass'n*, 205 Fed. 735, 739).

It is amazing that appellant in his brief would so disregard the testimony of his own production manager as to make the statement that the operation of the Feather Ride structure is not similar to that of the Knox structure (Plaintiff's Brief 42). There is not an iota of evidence upon which appellant could rely in making such a statement. On the contrary, on direct examination, as heretofore pointed out, A. W. Mackie, production manager of defendant-appellant, stated that the structures "did not differ at all in operation" [R. 142]. The law which defendant-appellant cites and the points made in his brief are not supported by the evidence or supported by the testimony of its own witnesses given on direct examination. It is immaterial that one part of defendant-appellant's structure cannot be substituted for one part of the structure of the Knox patent. Such fact neither proves nor disproves infringement.

As heretofore pointed out in detail with reference to the prior art, defendant's activities do not fall within the scope of the prior art. The prior art teaches the necessity of the production of a rigid structure—a rigid structure which utilizes steering wheels in order to obtain operation. Knox is the first in the art to teach the necessity of making this structure flexible and in making the structure flexible he was able to do away with the steering of one pair of the tandem wheels and was enabled to obtain equal load distribution under all circumstances. Defendant's activities clearly do not fall within the teaching of the prior art. The "best" of this art, in accordance with defendant's expert which was before the District Court, appellant has now abandoned.

As said in *Eck v. Kutz*, 132 Fed. 758 at 766:

“* * * The question is whether the inventive idea expressed in the patent has been appropriated; and, if it has, infringement is made out.

* * * * *

“But with all this the operation is essentially unchanged not only of the whole but of each part; and that is the significant thing.”

Knox Is the Sole Inventor.

Garner L. Knox is the sole inventor of the flexibly coupled tandem axle suspension system of the Knox patent in suit. To argue otherwise is to disregard the facts. Both Stebbins and Van Leuven, prior workers in this art, condemned the Knox flexible structure as inoperative. How can such facts fit with an assertion of joint conception of an invention jointly carried forward to a reduction to practice? The evidence shows that Stebbins, when his rigid structure failed, abandoned the project. Van Leuven insisted that to make the structure flexible would defeat its operation. The facts in this case are very similar to those which were before the Supreme Court in *Keystone Mfg. Co. v. Adams*, 151 U. S. 142. The facts are also very comparable with those present in *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U. S. 45, 67 L. Ed. 523, 532. In *Keystone Mfg. Co. v. Adams* the invention made was in a corn shelling machine. The patent sustained differed from that of the prior art and of the invention of the father of the patentee only in that the invention of the son's structure reversed the direction of the revolving beater. In that case, as here, it was shown that the father's structure proved a failure in operation and was abandoned while

the son's structure proved a marked success. The structure with the reverse beater succeeded where the father's structure failed. The patent was a combination patent. The factor which vitalized the invention in the corn planter patent case was the reverse rotation of the beater. The patent could not be defeated upon the theory that the invention was the joint invention of father and son. The father had not conceived the vitalizing feature of the invention. Here the vitalizing feature of the Knox invention resides in the flexibility of the structure provided by the use of the universal joint between the rocker arm and the added axle of the tandem axle assemblies. Stebbins did not conceive this vitalizing feature of the invention.

In the *Eibel Process Co. v. Minn. & Ontario Paper Co.* case, the invention resided in a machine and the vitalizing characteristic of that combination patent lay in the changing of the pitch or of the inclination of a wire previously utilized in the earlier machines. This changing of the pitch of the wire, *i. e.*, of a single element of the combination, was what vitalized the patent and made the invention successful. The combination of the patent remained the same as the combination which had previously existed with the exception of the change made in the pitch or inclination of the wire. This resulted, however, in a successful combination and the patent was sustained.

Here the imposition of the universal joints between the rocker arms and the attachment axle made possible a difference in mode of operation as it permitted the two axles to move out of parallel. It made the entire structure flexible. The concept of Knox was that the structure to succeed should be flexible. The concept of Stebbins and Van Leuven was that the structure should be rigid.

There could be no joint invention of Knox and Stebbins. Each was proceeding in a diametrically opposite direction.

There is not one iota of evidence before this Court which would have enabled the District Court to have held that the invention of Knox was in fact the joint invention of Knox and Stebbins. The lower court therefore properly exercised its discretion, when during the trial defendant presented a motion to amend its pleading to assert that the invention of the Knox patent was the joint invention of Knox and Stebbins, in denying that motion [Finding of Fact 21, R. 23, 24].

The Invention of the Knox Patent Involved More Than Mechanical Skill.

The District Court found that invention resides in the Knox patent and particularly in the combination as defined by claims 1, 2, 11, 15 and 17 thereof and in its Finding of Facts 7 and 8 has defined that invention. There is no evidence before this Court and none referred to in appellant's brief which would support a finding to the contrary. The Knox patent contains every element of a true invention. Knox proceeded upon a theory of operation contrary to that of the art before him. The art before him had failed. This factor is not controverted by appellant but is admitted. The art prior to the Knox invention proceeded upon the theory that in order to support the tremendous loads carried by vehicles requiring six wheels that it would be necessary to provide a rigid structure. Knox proceeded upon the theory that given flexibility the structure would attain equal distribution over the wheels of such a vehicle and would avoid the problems encountered in the art of "hanging up," excess tire wear, and distortion and bending of the parts because of their rigidity. There is no art prior to the

Knox patent which shows the imposition of a universal joint between a rocker arm and an added axle of a tandem axle suspension, or that suggests the necessity of flexibility in such tandem axle arrangement. On the contrary, the art teaches that such flexibility should be avoided.

The art has recognized the Knox invention and the principal manufacturers of this type of equipment have paid tribute to the Knox invention by operating under licenses under the Knox patent.

As is repeatedly held in cases of combination patents where there is a change which vitalizes the successful effort of an inventor and translates the prior failures to success, it is a wonder that other workers in the art did not see the solution first found by the patentee. It is easy to look backwards. It is first vision that distinguishes the inventor. Too many patents are held invalid because of the apparent obviousness of the solution of a difficult problem viewed retrospectively. Now that it is pointed out, it may seem quite obvious that by making the structure flexible one could overcome the problems of the wheels hanging up, the tires running out of true, and could at the same time obtain under all conditions of operation equal load distribution between the four wheels of a tandem axle construction. This is what appellant seeks this Court to find. See *Faries v. Brown & Co.*, 121 Fed. 547, 550, and *Diamond Rubber Tire* case, 220 U. S. 426.

The difficulty is in trying to place one's self in the position of where the prior art structures were failing and there was no Knox invention and to then see that by the relatively simple expedient of making the structure freely flexible by the use of universal joints between

the rocker arms and the added axle that all of the problems of the art would be eliminated. The District Court did not believe that at that time it would have been obvious. We agree entirely with the District Court that there is nothing obvious in the Knox invention—that it took a man of true vision to see that such a use of the old structure of universal joint interposed where Knox positioned the same would solve the many problems of this art. When suggested, Stebbins could not see it, but thought it would add greater difficulties to the structure which he was then working upon. When suggested, Van Leuven rejected it as involving a backward rather than a forward step. Stebbins and Van Leuven were skilled inventors in the art.

Conclusion.

It is respectfully submitted that the judgment of the District Court in finding the Knox patent to be valid and infringed was in accord with the overwhelming evidence before that Court.

It is further submitted that appellant in designating his record before this Court and omitting from that record the "best" art in accordance with its own expert's testimony, and seeking to rely upon patents not discussed or considered before the District Court, has taken from this Court the ability to properly review and to comprehend the basis of the District Court's decision.

It is clear that the Knox patent is valid, solved serious problems in this art, has stood the test both before the Patent Office and before the Court, and is a valid patent. Its validity has been extensively recognized by the number of licenses granted thereunder and is sup-

ported by the commercial success which the structures made under this patent have attained.

The rule of law as laid down by our Supreme Court in *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U. S. 275, 88 L. Ed. 721, is therefore applicable.

Appellee therefore respectfully submits that the judgment of the District Court should be affirmed.

Respectfully submitted,

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